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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: ECL-113

January 23, 2002

Mr. Pete Dirkmaat
c/o. Ms. Kathleen Hain, Manager
Environmental Restoration Program
U.S. Department of Energy
Idaho Operations Office
785 DOE Place
Idaho Falls, Idaho 83402

Re: Comments on the Draft 10% Remedial Design and Remedial Action Work Plan for the Stage II Pit 9 Glovebox Excavator Method, Operable Unit 7-10.

Dear Ms. Hain:

We have reviewed the Operable Unit 7-10, Draft 10% Remedial Design and Remedial Action Work Plan for the Stag2 II, Glovebox Excavator Method, which we received January 15, 2002. Our review is pursuant to the Federal Facility Agreement and Consent Order, the 1993 Record of Decision and other pertinent documents and agreements. As the document is at the 10% completion level, many of our comments reflect what we will expect to see in the 90% submission. Our comments are enclosed.

Please note that those comments marked with a "**" are of particular concern. Please contact me at (206) 553-7261, if I can be of further assistance.

Sincerely,

Wayne Pierre
Project Manager

Enclosure:

cc: Dean Nygard, IDHW

The attachment to document number 24723 erroneously lists the comments as Draft Final 90% SSSTF RD/RAWP Comments, when it should read Draft 10% RD/RAWP for the Stage II Pit 9 Glovebox Excavator Method, OU 7-10 Comments.

ATTACHMENT

#	Pg	Doc. / Sect	DRAFT FINAL 90% SSSTF RD/RAWP COMMENTS Issue	Suggestion
1. **		GENERAL	In order to provide a full review of these structures it is imperative that the final structural calculations and documentation be provided prior to construction reviewed for the WES, PGS and the RGS. (GG)	If it is desired to start construction prior to submittal of the 90% RD, that portion of the RD/RAWP can be submitted separately
2.		GENERAL	The FFS design calculations and documentation should be provided prior to construction, for review. The floor system is a critical item that must work properly for the project to complete the intended task. (GG)	If it is desired to start construction prior to submittal of the 90% RD, that portion of the RD/RAWP can be submitted separately
3.		GENERAL	The DD&D section is very general and does not address how the structure will be dismantled. This should be covered in the 90% RD/RAWP.	
4.		GENERAL	A Sampling and Analysis Plan will be required for the 90% RD/RAWP.	Information, including how the type and number of samples will be determined,along with specific assumptions, DQO's, and statistical calculations necessary to determine the type and number of samples to collect to meet overall project DQO's, will be required.
5.	3-3	INEEL/EXT-01-01512. Conceptual Design Report § 3.1	This document indicates that project functions will take place 24 hours a day with four shifts of workers working 12 hours shifts, 4 days on and 4 days off. A 12 hr shift may lead to fatigue and error.	There should be a discussion of whether the potential for human errors are increased with a 12 hr schedule and whether there is related operational history, e.g., at INTEC which serves as a basis for this schedule.

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6.	2-3	INEEL/EXT-01-01512. Conceptual Design Report § 2.3	General objectives	There are significant differences in characterization information provided by the original Stage II compared to the Glovebox Excavator Method Project. Since sampling and analysis for safe and compliant storage involves about 500 samples, one should evaluate sampling and analytical choices that would develop some waste zone characterization consistent with the original Stage II objectives. For example, the interstitial soil component of the waste zone represents a major single component fraction. The Glovebox Excavator Method provides an opportunity to derive important characterization information relative to this component (even recognizing the "mixing" inherent with the retrieval method). Evaluation of a retrieval strategy would require this information (especially plutonium and americium content). (JM)
7.	2-3	INEEL/EXT-01-01512. Conceptual Design Report Fig 2-2	The third item in this table states the author(s) will include treatability study testing, and then in the adjacent column it states that treatability study testing has been deferred. Please explain how and when treatability studies will take place, as it is necessary at some point. (AP)	
8.	2-3	INEEL/EXT-01-01512. Conceptual Design Report Fig 2-2	Last item. Does the proposed weather enclosure serve any mitigative function in case of failure of the primary confinement? (AP)	

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9.	2-4	INEEL/EXT-01-01512. Conceptual Design Report Fig 2-3	This Figure states, "The multi disciplinary team used a tailored EPA process to develop the DQOs." This tailored process has produced very general DQOs in Appendix B, which do not indicate to the reader how an 80% confidence interval was chosen or what the consequences are of having decision errors. (AP)	
10.	3-4	INEEL/EXT-01-01512. Conceptual Design Report § 3.1, Tbl 3.1	Sampling requirements for overburden indicate "none required". Although a sampling plan is not required; RadCon coverage of the operation should include field surveys during the removal process. These data represent a form of sampling and process control, and should be recognized. (JM)	
11.	3-5	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.1	The 90% RD/RAWP will need to provide the method that shows how the excavated soils will be placed in the soil bag. . (GG)	This could entail a frame to support the soil bag. The frame would be helpful because it would minimize the loss of soil during the loading the bags
12.	3-5	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.1	The 90% RD/RAWP needs to include specifications on the soil bag, including the weight limit to the bags so they are not overloaded and break unnecessarily. (GG)	
13.	3-5	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.1	The statement "contamination that exceeds operating limits is encountered" needs some explanation. Are airborne radioactivity CAM alarms the only control? Or are field surveys results by RadCon personnel also used for contamination control limits? Figure 3-3 should indicate in the "Remove" box that radcon surveys/monitoring is involved. (JM)	

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14. **	3-10	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.3, 2nd Para	This section states, "To meet waste zone material sampling objectives, random composite samples of non-debris, waste zone material (soil and sludge) are collected from the transfer cart in the glovebox." It is unclear whether this random composites will be obtained intra or inter transfer cart. Composite sampling of discrete waste or soil types appears inappropriate.	Need to clarify what the Principle Study Questions are before determining the appropriate sampling approach.
15. **	3-10	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.3, 2nd Para	The section also states, "The project team determines the number of samples to statistically characterize the waste stream as a single population with a confidence interval of 80% consistent with guidance from SW-846." The assumptions being used to support these statistics, what statistical equations will be used, and what information will be used from previous characterization efforts need to be detailed in the 90% RD/RAWP.	The appropriate statistics to use is waste stream dependent unless the only comparison being made is against background.
16.	3-10	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.3	Additionally, this section states that eight core samples of underburden will be collected to obtain migration information about COC. What statistical process will be used to determine sample locations needs to be described in the 90% RD/RAWP.	It is also important to identify whether the cores will be driven to refusal or whether only the top 12" to 24" of underburden will be sampled.
17.	3-10	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.3	The waste zone material sampling description is obviously oversimplified at the 10% RD/RAWP. A Sampling and Analysis Plan in the 90% RD/RAWP will be necessary to define in specific detail the sampling methods and statistical procedures necessary to meet DQOs. The plan must clearly define the sampling methods and statistical procedures to accomplish a defined accuracy at a stated confidence level (considering the waste "granularity"). (JM)	

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18.	3-10	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.3, 1st Para	The last sentence in this paragraph states that "Overburden is not sampled, as the material is returned to the pit following excavation of the waste zone material." Why is the overburden being automatically returned to the pit, when it may have been contaminated, without sampling this is unknown. (AP)	
19.	3-11	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.3		Table 3-2 lists different types of analyses for the different classes of materials. All samples should be analyzed by NDA gamma spectroscopy for TRU nuclides and other potential contaminants prior to the specified chemical analyses. The method is fast and inexpensive, and provides useful information on a principal contaminant of the waste zone. Most laboratories performing mixed waste analyses for chemical constituents require knowledge of the radioactivity content of the sample (or they analyze it prior to chemical processing). (JM)
20. **	3-11	INEEL/EXT-01-01512. Conceptual Design Report Tbl 3-2	The title of this table states, "Waste zone material and underburden samples undergo different analyses for different purposes." It is our position that the waste zone is not homogeneous. Also, the interstitial soil is influenced by individual releases from waste containers and is also not homogeneous. Justification will be required for the sampling strategy and analyses in the 90% RD/RAWP.	
21.	3-11	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.3, 4th Para	This section indicates what laboratories may be used for sample analyses. Please indicate if PE samples will be sent to these laboratories prior to analysis and the QA/QC criteria the laboratories will be held to. (AP)	

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22.	3-12	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.4	This section briefly describes the duties of glovebox operators relative to waste characterization. Will the glovebox operators have available RadCon instrumentation to survey the waste received into the glovebox (other than the fissile/TRU material well monitor)? Appropriate survey instrumentation can provide useful characterization data and quickly resolve issues relative to suspect material. (JM)	
23.	3-12	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.4	This section states, "The glovebox excavator project must maintain data records of each waste zone material drum, and a simple data management strategy supports this requirement." Waste zones will need to be defined in the 90% RD/RAWP.	
24.	3-12	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.4		This section also states that only paper forms will be used for data management. Procedures may be needed to protect these forms from contamination during process operations? (AP)
25.	3-12	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.4, 7th Para	This section states that mercury and volatile organic compounds will not be included in air pollutant monitoring. An EDF or equivalent will be needed to support this conclusion.	
26.	3-12	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.4, 7th Para	This section also states that if the HEPA filters fail, an alarm will sound. Procedures to prevent releases of contamination if the HEPA filters fail should be addressed in the 90% RD/RAWP	

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27.	3-14	INEEL/EXT-01-01512. Conceptual Design Report Fig 3-7	This figure is an operations process model screenshot. Unfortunately, this figure is not clearly explained and should be addressed in the 90% RD/RAWP	
28.	3-13	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.4	Figure 3-6 indicates the assay trailer provides TRU content and radionuclide content. What are the requirements for radionuclide content? The DQOs state TBD. Although we would think that we should have some idea at this point as to the requirements for safe storage and acceptance at AMWTF, all waste zone samples should receive an NDA by gamma ray spectroscopy. This would be independent of the assay and provide additional information at higher sensitivity. (JM)	
29.	3-14	INEEL/EXT-01-01512. Conceptual Design Report Fig 3.7	This provides the operations process model screenshot. The process illustrated indicates that the packaged overburden is assayed, and the drum count in the figure suggests that some overburden is stored in drums? Please clarify. (JM)	
30.	3-15	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.6	Do the surfaces that are to be painted need to be prepared? (Paint does not stick very well to dusty and dirty surfaces). (GG)	
31.	3-15	INEEL/EXT-01-01512. Conceptual Design Report § 3.1.6	Will the grout that is to be pumped into the pit be mixed on site or will it be delivered to the site in a "ready-mix" truck? Is there a need for a grout pump truck for grout placement? How would the arm of the pump truck be handled if it became contaminated during the grouting process? (GG)	

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32.	3-21	INEEL/EXT-01-01512. Conceptual Design Report § 3.2.3	The heating requirements/freeze protection for Fire Riser Building. The report mentioned insulation of the building, but a source of heat is not addressed? (DR)	
33.	3-21	INEEL/EXT-01-01512. Conceptual Design Report § 3.2.3	How will the gravel be compacted in the area of the probes? Please discuss the measures of compaction that will be required (for example, 95% of the modified proctor) for the compaction of the gravel? Please specify the gradation of the gravel to be placed under the WES support structure? (GG)	
34.	3-26	INEEL/EXT-01-01512. Conceptual Design Report § 3.4.1	The 90% RD/RAWP should include all necessary backup information and/or calculations regarding the structural loading and weights of the equipment for the FFS to ensure proper structural design. The author(s) should specifically review concentrated loadings, including the impact loading, that may occur under the wheels of the forklift with a fully loaded drum or soil sack. Is the composite deck (3" metal deck + 3/16" plate) adequate to support the scale, exhaust stack and any other equipment. How will the composite deck be attached? (through puddle welds or screws?) Is the metal deck providing adequate support for the 5' span under the tension loading condition when the forklift passes over the span between the supports? What is the deflection of the metal composite deck? If the deflection under forklift loading is excessive, there may be a "waviness" in the floor when the fully loaded forklifts drive along. The International Building Code, IBC 2000, which is the industry standard for structural design loading and is cited in the DOE-ID AES, states in Table 1607.1 that for light manufacturing the minimum uniformly distributed live load is 125 psf and a concentrated load of 2,000 lb. (GG)	

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35.	3-26	INEEL/EXT-01-01512. Conceptual Design Report § 3.4.1	Please address in the 90% design the potential of the Facility Floor Structure for uplift and overturning forces created by wind and seismic loads from the WES. (GG)	
36.	3-28	INEEL/EXT-01-01512. Conceptual Design Report § 3.4.4	Will the WES structure is designed for negative pressure (suction) in addition to the PC 2 wind loading. It is not clear in the documentation that this load combination has or will be addressed. Please include the fabric on the exterior of the structure in the 90% structural design of the WES (including the suction created within the WES). (GG)	
37.	3-28	INEEL/EXT-01-01512. Conceptual Design Report § 3.4.4	Please indicate in the specification that the design for the WES will be approved (signed and sealed) by a licenced professional engineer in the State of Idaho. (GG)	
38.	3-29	INEEL/EXT-01-01512. Conceptual Design Report § 3.4.5	The design information for the ancillary structures is omitted from the submission and will need to be included in the 90% RD/RAWP. Also required will be ventilation, heating, air conditioning, plumbing and fire protection requirements for these buildings and code references for the design conditions. (DR)	

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39.	3-30	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.1	As the excavator will be an off-the-shelf backhoe, what . safety limits on the hydraulic arm range of motion will be set to avoid breaching containment? Also, as the exhaust is discharged outside of the WES, will outside air be supplied to the engine, or will it draw from within the WES? If it draws from within the WES, this external discharge should be analyzed and balanced in the HVAC design. Also, carbon monoxide detectors may be warranted to ensure that the integrity of the exhaust discharge is maintained. (JM)	
40.	3-35	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.1	The mitigation of fumes generated by the excavator is noted. Details for wall thimble, stack support and vibrational details for the connection to the excavator is required in the 90% RD/RAWP. Also a list of equipment operating within the WES that will produce fumes should be included. Further, please provide wall or roof thimbles with flexible fume exhaust reels or piping to eliminate these fumes, if present. (DR)	
41.	3-35	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.1	Excavator, forklifts, and other equipment may generate excessive quantities of heat and have minimum airflow requirements to operate correctly. Documentation and analysis of this equipment to ensure proper operation of equipment without affecting the operators and other personnel within the WES, will be required in the 90% RD/RAWP. Typical design considerations for including heavy equipment within a structure may require a remote condensing unit for heat rejection from radiators. (DR)	

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42.	3-38	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.3	The procedure for rotating the cart is unclear. Please explain how will the cart be rotated atop its mounting table if the drums are loaded with their major axis perpendicular to the gloveboxes. Will the bucket of the excavator be used for this purpose? Will the cart be equipped with a turning mechanism? Will the cart have a mechanism to prevent the cart from coming off the track? What procedures will be followed when the cart is accidentally bumped by the excavator or becomes stuck? (GG)	
43.	3-39	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.5	Recognizing that the concept consists of three identical gloveboxes and this concept provides certain advantages, how has this been balanced against using or tailoring certain glovebox lines for specialized operations, and/or receiving defined classes of wastes? (JM)	
44.	3-42	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.5	Glovebox Hoist. Are the proposed Glovebox framing members designed to be able to withstand the load from the 1 ton hoist (including impact)? (GG)	
45. **	3-43	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.5	Please provide additional design information for air relief for the RCS. The HEPA intake at each Glovebox will only address 5 percent of the design airflow. It is not evident from the text or the appendices that each intake into the RCS includes a HEPA filtration design. (DR)	

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46. **	3-46	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.6	Waste sorting and inspection singles out, "visually unidentifiable combustible material" for special treatment. That is, it cannot go into a waste bag-out drum without fissile monitoring. Other noncombustible waste forms exist that can have significant fissile content, and historical data does not exclude their presence in Pit 9. Relying on a visual determination to select a class of material for fissile monitoring presents a risk to the operation and a risk of a drum overload. Using an appropriate RadCon survey instrument to hand survey the waste entering the process, or an installed in-situ monitor that "observes" the loaded cart can avoid this concern. These measurements would aid the operator to ensure that all suspect material goes to the fissile well monitor prior to drum loading. (JM)	
47.	3-48	INEEL/EXT-01-01512. Conceptual Design Report § 3.5.6	Figure 3-35 depicts a worker handling waste material. Glove box operations that process and size metal scrap (and operations where glove penetration concerns exist) will need to address worker protection in operations (special glovebox gloves, leather over-gloves, special tooling, etc.). (JM)	
48.	3-49	INEEL/EXT-01-01512. Conceptual Design Report § 3.6	Additional design information for balancing and controlling the airflow for each intake into the WES and RCS, will be required at the 90& RD. The report indicates a minimum of 12 air changes per hour in the Glovebox, with only 6-10 air changes per hour in the RCS minimum. (DR)	
49. **	3-49	INEEL/EXT-01-01512. Conceptual Design Report § 3.6	The ventilation dampers outlined in the preliminary design are counterbalanced and assumed to be of standard construction. On a relief condition, these dampers may have unacceptable leakage rates. The performance of the dampers should be reviewed.(DR)	

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50.	3-49	INEEL/EXT-01-01512. Conceptual Design Report § 3.6	The ventilation rate outlined in the preliminary design is listed at 1 cfm per square foot and based on the architectural drawings of 110 ft. by 80 ft for the WES, the minimum airflow is to be 8800 CFM, with a 20 percent contingency, this increases to 10,560 CFM. The airflow quantities listed in the documents are incorrect based on this information. (DR)	
51. **	3-49	INEEL/EXT-01-01512. Conceptual Design Report § 3.6	The pressure differential for the different zones is listed in this section as well as the requirement for 125 FPM across any breaching. The man doors and overhead doors listed on the architectural drawings will require more airflow than what the fan is capable of providing for ventilation, if the doors are considered a breach in the containment envelope. The fan may not have the capacity with the variable frequency drive to maintain the pressure requirements and the airflow requirements. (DR)	
52.	3-49	INEEL/EXT-01-01512. Conceptual Design Report § 3.6	The pressure differential for the WES versus the atmosphere may induce additional loading on the WES framing. There is a need to coordinate pressure loading from the ventilation system with the structural designer and documentation of this coordination and analysis will be needed in the 90% RD/RAWP. (DR)	
53.	3-54	INEEL/EXT-01-01512. Conceptual Design Report § 3.6.2	Localized ventilation may be needed in the RCS to counter certain airborne situations should they arise. Portable recirculation filter systems exist that could provide capture and help balance flows within the RCS around sensitive areas. The portable recirculation filter system would discharge within the RCS and not impact the "house" HVAC system. (JM)	

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54.	3-66	INEEL/EXT-01-01512. Conceptual Design Report § 3.8.2	The CAS audio alarm (and remote alarm "speakers") should be distinctive from CAM alarms and capable of being heard above all ambient and machine noise, both inside and external to the WES. Likewise, the visual signals should be distinctive and widely distributed (strobe lights, etc.). (JM)	
55.	3-67	INEEL/EXT-01-01512. Conceptual Design Report § 3.8.3	It is stated that glovebox operators place suspect visually unidentifiable combustible material into the FMM well. Considering that a criticality alarm system is a component of the design, using only visual information to sort for disposal and to select suspect material for fissile monitoring is contrary to nuclear criticality safety practices. The glovebox operator needs to have information relating to potential fissile content of all material entering the process. This can be accomplished by using an appropriate RadCon survey instrument to hand survey the waste entering the process, or an installed in-situ monitor that "observes" the loaded transfer cart. (JM)	
56. **	3-69	INEEL/EXT-01-01512. Conceptual Design Report § 3.8.4	The CCTV monitoring images from each of the three cameras should be recorded (e.g., VCR) for future use in developing plans for future retrievals at the SDA and for addressing characterization issues concerning fate and transport issues.	We recognize the resource concern with security clearance of tapes, however, properly cleared agency personnel are available to screen tapes to minimize the need for future security declassification.
57.	3-71	INEEL/EXT-01-01512. Conceptual Design Report § 3.9	Will the RCS and the FFS be cut up for burial? How will the contaminated pieces be handled? How will the trench excavation shield be extracted and decontaminated? Will the trench shield be grouted in place? Please provide a disposal plan for the steel FFS, RCS, PGS and WES. (GG)	

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58.	3-71	INEEL/EXT-01-01512. Conceptual Design Report § 3.9	Add a bullet, "list of potentially reusable structures and equipment."	
59.	4-1	INEEL/EXT-01-01512. Conceptual Design Report Table 4-1	What type of estimating program was used to generate the cost estimate (e.g., parametric)? What is the basis for the listed confidences?	
60. **	5-1	INEEL/EXT-01-01512. Conceptual Design Report § 5	As data generated from Stage II will serve to support the Stage III design and/or OU 7-13/14 feasibility study evaluations, a remedial action report is required and needs to be included as a deliverable in the schedule.	
61.	6-2	INEEL/EXT-01-01512. Conceptual Design Report § 6.2	Identification of mitigating features in the event of discovery of an fissile material highly overloaded drum should also be addressed both pre and post glovebox, to insure the continued operation of the project if such an event was discovered.	
62.	B-7	INEEL/EXT-01-01512. Conceptual Design Report Appendix B Tbls B1 & B2	In the B-1 and B-2 tables, page numbering skipped some even numbers?	

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63. **	B-7	INEEL/EXT-01-01512. Conceptual Design Report Appendix B Tbl B1	Table B-1 presents the data objectives for the OU 7-10 Glovebox Excavator Method Project. All samples collected from the waste zone should be analyzed by gamma spectroscopy (a fast and sensitive NDA method). This analysis can provide measurements of the principal TRU nuclides, and can be used to support the drum assay methodology. QW3 analytical method for weight of container is not correct. Sampling method column states that "a statistical number of grab samples will be collected and composited from the transfer cartloads, for 80 percent confidence". This statement is confusing. Eighty percent confidence relative to what? The Sampling and Analysis Plan must clearly define the sampling methods and statistical procedures to accomplish a defined accuracy at a stated confidence level (considering the waste "granularity"). (JM)	
64.	B-7	INEEL/EXT-01-01512. Conceptual Design Report Appendix B Tbl B1, QW1	The Measurement and Sampling Method columns indicate that reactive cyanide will be identified through visual inspection and biased samples will be collected where concentrated cyanides are suspected. This should be clarified that only disposed product would be observed.	
65.	B-21	INEEL/EXT-01-01512. Conceptual Design Report Appendix B Tbl B2, QS-12	The objective of this DQO is to characterize the underburden. At what depth(s) will samples be collected in the underburden and will the extent of contamination be determined through collecting samples until clean soil is encountered? (AP)	

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66. **	B-35	INEEL/EXT-01-01512. Conceptual Design Report Appendix B Tbl B2	Sampling Method Column. This column states the type of samples that will be collected (composite); however, it does not include how this type was determined. Also, this column indicates that the number of samples that will be collected for characterizing waste zone material will be statistically based, but again does not provide specifics. The assumption(s) made about the waste (i.e. homogeneity), and the information already known about the waste is required to support the type and number of samples to be collected. (AP)	
67.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwgs A-6, A-7 & S-1	Please discuss the wall type for the Personnel Monitoring, Personnel Access and Transfer Vestibule rooms. These walls are stated in the documentation as being manufactured by Permacon. How are these walls attached to the WES? Do they need to be attached to the WES? Should there be additional structural members under the Personnel Monitoring, Personnel Access and Transfer Vestibule walls similar to the RCS in order to provide structural support of the walls? (GG)	
68.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwgs. A-7 & S-1	Do the scale and charge station need any additional foundation support steel. There is no additional support steel shown on the drawings under these two pieces of equipment. (GG)	
69.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwgs. A-7 & S-1	Please show additional support steel under PGS 2. Are the legs of PGS 2 to fall on the steel floor beams? There is no additional support steel shown on the drawing for PGS 2 as is shown for the other PGS 1 and 3. (GG)	

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70.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg. A-7	Please discuss how the walls of the Personnel Monitoring, Personnel Access and Transfer Vestibule rooms will be supported at the top of the wall? Is the roof structure rigid enough to support the walls? (GG)	
71.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg. S-1	How will the trench box (excavation shield) be installed? According to the text, the excavator is to remove the overburden and place it in the 4'x4' soil bags after the WES and RCS are constructed. This means that the Facility Floor Structure will have been previously installed? Will the trench box be installed incrementally as the excavation progresses? (GG)	
72.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg S-1	How will the Facility Floor Structure be constructed? Will the FFS be partially assembled off site, brought in by truck and fully assembled? Will it be bolted together? Or welded? If welded, is welding permitted in this area? (GG)	
73.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg S-3	How will the PGS be attached to the FFS? (GG)	

#	Pg	Doc. / Sect	DRAFT FINAL 90% SSSTF RD/RAWP COMMENTS Issue	Suggestion
74.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg FP-1	Has the issue of the need for a flexible coupling at the Fire Riser Building for the pipes and conduits due to frost heave of the foundation of the building been addressed? (GG)	
75. **		INEEL/EXT-01-01512. Conceptual Design Report Appendix C HV-2	The HVAC equipment/air flow pattern plan shown in the drawing shows a major component (5324 CFM of a total 6860 CFM) of the RCS air flow entering at a single point on RCS wall near the excavator. Has the RCS air flow pattern been evaluated and is it consistent with the maximum capture of residual airborne contaminants? It appears that the lower corner of the RCS is receiving most of the capture flow. Such a situation can cause adverse conditions within the RCS (spread of contamination, contamination buildup in low flow regions, etc.). The distribution of input and exhaust vents needs to be carefully evaluated with respect to operations. Also, as noted earlier, the effect of venting the excavator exhaust outside the WES must be balanced. (JM)	
76.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg HV-1	The heating configuration and quantity is providing a temperature rise of 40-45 degrees F over the entire facility. The introduction of ventilation at below freezing, however, may produce areas within the WES below freezing. The 90% should include a re-check of the heating design to ensure equipment and components do not experience freezing temperatures. The review should include requirements at overhead doors to prevent freezing of equipment and components in the vicinity of the doors. (DR)	

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77.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg HV-2	The fan configuration on the drawing is in conflict with the airflow diagram and the design manual. The design approach is to maintain ventilation with no downtime. The backup fan design would require a parallel ductwork configuration with isolation dampers or manual slide gates for the facility operators to energize and divert airflow on a fan failure. (DR)	
78.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg HV-2		Please review the proposed filter design for the fan system. The moisture separator is documented to be located downstream of the 30 percent pleated and the secondary filters. The moisture removal may be more efficient if the separator is located prior to the 30 percent filters. This recommendation may require additional cleaning of the separator, but the filter media will be more effective and have a longer functional life.(DR)
79.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg HV-2	The filter system is designed for filter replacement while the fan is in operation. The negative pressure in the filter housing is excessive and may make filter replacement difficult. A parallel arrangement may be more effective. (DR)	
80.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg HV-2	The filter system is designed for filter replacement outside the RCS. The filter media will be contaminated with elements from the RCS. Will the media replacement procedure introduce contaminants into the WES? (DR)	

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81.		INEEL/EXT-01-01512. Conceptual Design Report Appendix C Dwg HV-2	The present design may short circuit the ventilation through the RCS. (DR)	It is recommended that the inlet air grilles be located to assist in the dust mitigation by moving airflow from north to south across the face of the excavator.
82.	D-11	INEEL/EXT-01-01512. Conceptual Design Report Appendix D	The waste retrieval and packaging operation is presented in the process logic diagrams.	The process of sampling in the glovebox presents a number of operational issues that cost time and potential quality. Sampling materials and containers must be introduced to the glovebox, and the containers decontaminated and removed from the containment. With a potential for greater than 500 samples, this introduces a complexity that could be avoided through a small design change. Consideration should be given to designing into the glovebox a sampling port where the sample container remains outside the principal glovebox work environment. A number of alternatives exist to accomplish this objective. (JM)
83.	D-17	INEEL/EXT-01-01512. Conceptual Design Report Appendix D	The laboratory analysis and sample handling logic is presented. Prior to opening the sample bottle and obtaining subsamples, the sample should be subjected to NDA gamma spectroscopy analysis for radionuclides (Pu, Am, and others). This information is important for a complete characterization of the radioactive waste sample. Understanding the distribution of the principal radionuclides between various samples and sample types, and at a much greater sensitivity that can be achieved through drum assay, provides valuable characterization information on the waste zone materials. (JM)	

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84.	2-2	Section 2.2, Appendix A	The assumptions regarding characterization are limited to analyses directed at safe storage and AMWTF acceptance. Since a considerable amount cost is involved with satisfying these two objectives, which do not directly relate to environmental data or DQOs (in the true sense of the DQO process), some effort needs to be directed at environmental data pertinent to understanding the environmental dynamics of the waste zone retrieval. The principal objective of the glovebox excavator method project is to demonstrate retrieval. Although the revised retrieval operation will involve considerably more mixing of the waste zone (interstitial soil and waste), this should not be a reason for not characterizing interstitial soil (soil material represents 2/3 the volume of material in pits and trenches). (JM)	
85. **	1	INEEL/EXT-1998-00444, TFR-2527, Rev 2 § 1	Should add a bullet stating, "Provide a check against the disposal location information data base."	
86.	3	INEEL/EXT-1998-00444, TFR-2527, Rev 2 § 1.4		The term "transuranic" means all nuclides with atomic number greater than 92. The acronym TRU can be used to define a subset of the transuranic population (i.e., TRU waste). Therefore, remove the word "transuranic" from the definition, and let stand the term "TRU". (JM)
87.	11	INEEL/EXT-1998-00444, TFR-2527, Rev 2 § 3.1.2.1	Item 6 states that the project shall use methods and techniques to minimize the spread of contamination from waste zone material into the overburden and underburden material. Verification is stated as "analysis". Where in the DQOs are the analysis requirements defined to satisfy this objective? (JM)	Unrelated to DQO's, it may also be best to separate the discussion of overburden from underburden as the excavation process does not appear to minimize the spread of contamination to the underburden.

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88.	12	INEEL/EXT-1998-00444, TFR-2527, Rev 2 § 3.1.2.3	Items 4 & 5 state that the project shall characterize waste zone material for disposition to AMWTF and sample underburden. The verification is indicated as "demonstration". It appears that "analysis" should be included in the verification statements. (JM)	
89. **	12	INEEL/EXT-1998-00444, TFR-2527, Rev 2 § 3.1.2.3	This section attempts to describe the technical and functional requirements for sampling and analysis. However, this section is less than a page in length and does not contain any detailed information as to how sampling and analysis will take place to meet project goals. This will need to be detailed in the 90% RD/RAWP. (AP)	
90.	14	INEEL/EXT-1998-00444, TFR-2527, Rev 2 § 3.1.2.5		It should be noted that if a significant TRU content existed, (e.g., discovery of a 'hot spot'), the overburden would not be considered to be at a low risk-based concern level.
91. **	16	INEEL/EXT-1998-00444, TFR-2527, Rev 2 § 3.2.3	Item 2 states that the project shall ensure that drums are not overloaded relative to the fissile content of the final package. The basis statement indicates process knowledge (and visual inspection) will be used to select the waste streams for fissile monitoring. However, it appears that process knowledge is based on an assumption that current SWEPP information on recently stored TRU wastes is applicable to Pit 9 wastes, ignoring available RFP assay data of pre-1970 wastes. Also, if verification involves demonstration and analysis, "front-end" information on potential fissile content of material entering the process is required. A visually based "process knowledge" decision is not consistent with nuclear criticality safety practices. (JM)	